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ASSOCIATION AND ATOMISM

NOWADAYS, as soon as the much-despised associationist view dares to raise its head, down comes upon it, with many a flourish, the club of atomism. We are willing to yield the space of a chapter to a discussion of association; but association as a basic principle is generally considered as obsolete. For will not association throw us back to the time

> "When nature underneath a heap
> Of jarring atoms lay,"

and before the time when the 'tuneful voice' was heard with its harmony? And so association still struggles on with its old man of the mountain. Attacks are made usually against the older view of association. But there is a newer view which is, I think, a valid one. Before presenting this newer conception, I think it advisable to show the atomism inherent in the older and much-abused standpoint of the English school.

What can be more evident than the fact that—pile idea upon idea as high as we will—we have still a series of discrete units, and, *granted their separation,* by no amount of fusion, or amalgamation, or agglutination, can we form a unitary consciousness. Twist and turn as we may, there still remains before us a series of disconnected ideas, and no force, 'gentle' or otherwise, will satisfy us as a means of their connection. And is such connection, moreover, possible? Does not the mere acknowledgment of a connection force upon us the notion of infinite disconnectedness? Instead of bringing our various ideas together, sausage-fashion, are we not forever separating them by this means? For, *granted these self-sufficient ideas,* all we can have between any two ideas is a point of contact, but no real connection; which point of contact must have some intermediary, and so on *ad infinitum.* From this standpoint, at least, so it seems to me, association must lead to atomism.

No better presentation of the purely associationist-atomistic stand-

point can be found than in Mill's 'Analysis.' Criticize Mill and his coworkers as we will, we must at least acknowledge that no one has followed his treatment with more rigorous consistency than he. While his basic view, when generally stated, is much like many treated in separate chapters in some present-day psychologies, these very psychologists hold up their hands with an 'O horrible!' at his conclusions. Mill at least is consistent, whatever else he may be. No one sets forth the atomism inherent in his associationism better than he and no statement is a better argument against his own position than his own statement. Let us examine his clearly expressed position:

"Some of the most familiar objects," says he, "with which we are acquainted furnish instances of these unions of complex and duplex ideas. Brick is one complex idea, mortar is another complex idea; these ideas with ideas of position and quantity compose my idea of a wall. My idea of a plank is a complex idea, my idea of a rafter is a complex idea, my idea of a nail is a complex idea. These, united with the same ideas of position and quantity, compose my duplex idea of a floor. In the same manner, my complex idea of glass, and wood, and others, compose my idea of a house, which is made up of various duplex ideas. How many complex or duplex ideas are all united in the idea furniture? How many more in the idea merchandise? How many more in the idea called Every Thing?" How many, indeed! Mill would well fill our 'empty cabinets.'[1]

It is against associationism of this kind that so much thunder of the present time is directed. The great James attacks the associationists as if they owed him money,[2] Stout repudiates his predecessors,[3] and we find attempts made to introduce other views, those of schematic and implicit apprehension,[4] of 'intellectual effort,'[5] voluntary connection of ideas,[6] and so on. No one to-day would venture to give an atomistic view so baldly stated as that of Mill. But because untenable *views* of association are wrong, it does not necessarily follow that *associationism* can not be upheld. A closer study of consciousness is necessary, and if the analysis as given by the English school is not adequate as a representation of the facts in the case,

[1] 'Analysis,' I., pp. 115–116.

[2] See 'Principles of Psychology,' I., pp. 2, 3, 160–161, 162, 192, 196, 230, 236, 237, 244, 254, 277, 279, 336, 344, 347–360, 480, 484, 492, 497, 499, 592, 649, and II., pp. 5, 45, 83, 423, 590, 602.

[3] See his 'Manual,' 2d Ed., pp. 116–126.

[4] Stout, 'Analytical Psychology,' I., pp. 78–97.

[5] Bergson, 'L'Effort Intellectual,' *Revue Philosophique*, 53, 1902.

[6] Witasek, 'Ueber willkürliche Vorstellungs-verbindung,' *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, 12 Bd., 1896.

instead of repudiating the facts, it seems more profitable to make a new analysis, to try again.

So much has been done in the collection of data in various fields, and by scientific methods, that a sufficiently large field has been opened for examination, as regards a theory of association. What makes these data especially valuable is the fact that they have been gathered for different purposes. Thorndike has tried his experiments on the cat,[7] and has found, not a static moment, but a tendency towards serial reaction to a given situation. Münsterberg has established the existence of a *Konstellation* rather than of a solitary 'idea' in ideal revival.[8] In a careful series of experiments, Binet has brought out that in recalling a series of words, such words tend to cluster around a 'theme,' instead of being disconnected.[9] Müller and Pilzecker have put to the test of experiment the '*initiale Reproductiontendenz*' and have established the fact that in recalling a line of poetry by means of some word given, we recall not necessarily what immediately follows, but frequently the first member of the line leading to the word called out.[10] In a series of tests I have found this same tendency present. These different facts, brought to light by investigators working on different problems and independent of one another, all agree in that they show the falsity of atomism (implicitly), and in that they likewise emphasize to one who studies them and works to verify them by analysis and experiment, that association, if it is to accord with the facts, must be treated from a new point of view, and that not atomistic as of old.

From a purely analytic standpoint, agreement with all that has been presented above is found in Stout's summary of his treatment of implicit apprehension. In any present moment he finds, "(1) It is impossible to distinguish and identify a whole without apprehending any of its constituent details. (2) This is not an awareness of form or combination apart from that of elements combined. . . . (3) The distinctionless unity of the whole tends to pass into multiplicity as the mind dwells on it. (4) This tendency is also a feeling of tendency—a peculiar experience. . . . (5) This circumstance suggests a name for that apprehension of a whole which takes place without discernment of its parts. We may call it *implicit* apprehension. In so far as the compound parts become discernible, implicit apprehension becomes *explicit.*"[11] In this statement, finally, we have another careful analysis of the present moment agreeing

[7] See his 'Animal Intelligence,' pp. 65–95.
[8] See his 'Beiträge,' Heft 4, pp. 23–27.
[9] See his 'L'Etude Experimental de l'Intelligence,' ch. 4.
[10] See their 'Experimentelle Beiträge zur Lehre vom Gedächtniss,' ch 6.
[11] See his 'Analytic Psychology,' I., ch. IV.

essentially with what has been given by the above-mentioned investigators.

This explication and differentiation of a present moment has been well brought out on the motor side by Baldwin. He represents the motor processes in attention by the formula $A + a + a'$, in which A represents the undifferentiated attitude, a the general sense accommodation, and a' the adjustments and shades of reaction peculiar to the object at hand.[12] He finds 'no support for the current view . . . that voluntary combinations are gradually built up by adding up earlier voluntary movements, muscle to muscle, and group to group.' We have further evidence in Baldwin's investigations of the process from an undifferentiated whole towards serial adjustments.

The facts thus far given, it seems to me, point to a view of consciousness directly the reverse of that given by Mill. Instead of considering the present moment as an agglutination of sense elements, we must, at any moment, view it as one whole,[13] *out* of which, by a process of differentiation, the sense elements are plucked, *in abstracto,* as it were. Instead of having a process of *association,* we have rather a series of *disassociations,* through serial reaction, motor adjustments and the like. My attitude taken at first to an undifferentiated totality (such totality being a given situation, sentence, word, etc.) tends towards finer adjustments, towards the explication of the present moment in serial order. And such explicit series, being developed *out of* the previously undifferentiated whole, necessarily belongs to it, returns and gives a fuller content, a fuller meaning to this totality. And only in so far as the series belongs to it, is associated with it in every possible manner, have we unity. Unity, therefore, depends upon this association, and atomism, instead of resulting from association, is inevitable without it. What we have in a present moment is not so much an isolated idea, but rather an entire attitude, a total disposition; such disposition being an entire system with emphasis upon some aspect, a word with its meaning, together with forward and initial tendencies, and so on.

An entirely new interpretation of the present moment of consciousness is necessary if we are adequately to represent the facts as thus far presented. Mill's building-up process may be all right in the regions of Alice and her looking-glass, but they seem rather topsyturvy in the light of present experimentation. The present moment of consciousness is not a conglomeration of sense elements which, previously existent, have by some force grown into a complete whole. Any succeeding elements arising out of the present moment

[12] See his 'Mental Development,' ch. X., sec. 3.

[13] See my 'Consciousness and its Object,' Pt. III., *Psychological Review,* July, 1905.

do so in virtue of the fact that there has already been explicated a series of attitudes, reactions, etc., which have developed the meaning of the present moment, have yielded to it content and have given rise to the possibility of concomitant or serial revival. The whole process leading up to the present moment is a genetic one, and by a residual process of development and accumulation, it enables serial revival to take place. What we have in any present moment is a single attitude, such attitude tending towards serial explication under guidance of the ideational content to which it gives meaning, and by which series of adjustments fuller meaning and wider content may be acquired; and such moment on its ideational side need not be a single 'idea,' but may be an entire disposition, a complete system, with various connections and interrelations.

It is this newer conception of the conscious moment which necessitates a fresh analysis of the facts of association. Much energy has been spent in gathering data and classifying them under various 'forms,' each system more fearful and wonderful than the preceding; while, on the other hand, we have rather hair-splitting arguments concerning the 'laws' of association. And all the while, what association itself is, or what analysis will fit the facts as presented, is cheerily left aside or totally neglected. It has always seemed to me rather queer that various tests have been made on certain aspects of consciousness, without a careful analysis of the very facts to be investigated. Many seem to fight shy of such analysis through fear of being dubbed 'logical' or, worse, 'philosophical.' Now the connotation of terms, it seems to me, which are supposed to cover certain cases, is just as important as their denotation, and to spread out a number of examples, *ad infinitum*, and say, Behold, here is a new discovery, here is association, or what not, is a method of proceeding like that of Dandy Dinmont who distinguished his dogs by calling them old Pepper and old Mustard, young Pepper and young Mustard and little Pepper and little Mustard. We must have data, but such data must be analyzed, and mere enumeration is not the whole part of the psychologist's work. Association as such has suffered greatly from this tendency, and to make matters worse, the attempt to do away with the 'laws' by substitution of 'forms' has shut out the point of issue altogether, What is association?

It is association itself with which I wish here to deal, and association, not atomistic in the old sense, but functional in the newer sense. I shall therefore leave to one side the question of its laws, or its forms. Titchener has called the expression 'association of ideas,' 'one of the most familiar and one of the most slippery phrases' found in psychology. This, it seems to me, is a good sign, for it shows that new facts have been and are being continually found,

which necessitate a continual change of meaning in the expression. But the older connotations 'cling round it still,' and by getting in the way sometimes cause confusion. It is rather interesting to follow the evolution of the treatment of association, the more so since in a rather casual and haphazard way modern writers (some of them) pick out what seems to suit their fancy, and then proceed laboriously to show why either one or both laws are basic, or perhaps why there are no laws at all, but only forms of association.

The early and now more or less extinct faculty psychology in mentioning association, considered it as a sort of power apart from the ideas, or treated it as a kind of explanatory principle. Of course this seems absurd now, and few will now advance the position that there is a loose power buzzing about in our heads, hooking and unhooking here and there whatever suits its 'fancy' or its 'reason.' But is it not to be found in a somewhat changed form in the strenuous theorists who place 'will' back of everything, and indulge themselves in the pleasure of explaining what is unknown, by something which is more so? And do we not see the most 'modern' psychologist of to-day emphasize a theory of 'apperception' as a selecting and inhibiting principle? This, it seems to me, is not at all changing the point of view of the faculty psychologists, but simply giving it another name.

Another point of view is the 'logical' which has its roots firmly planted in the English psychologies, and which bobs up serenely from time to time in modern treatises. This view of things is valid *as logic,* but it has nothing to do with the psychology of the matter. Association is here considered either as a connection between things, or as the things so connected. James has brought this out, as have Rabier and Bradley before him. The 'forms' of association given by Wundt and his followers are a conscious enlargement of this fault, a method of treatment which has tended to carry the problem out of the field of psychology altogether.

This logical view of association is like that of any other association of external objects, *e. g.,* a political association, etc. We call a member of such association an 'associate.' This has come to acquire a personal reference; which leaves only 'association' for the thing associated or connected. This view has also led to the formulation of the laws of contiguity and similarity with their endless reductions; and finally to the more rational 'forms' of association.

Now, in a series of conscious moments, treated psychologically, the states, *as states,* can not be treated in the logical manner unless we consider them as things, like any other external objects. We may logically classify a series of moments as visual, motor, etc., but this does not help us any as regards the fact of their succession. Nor

would a logical classification of the external objects denoted by such states give us any explanation of mental succession. Using a previously developed formula,[14]

an, bmn', $cm'n^2$, dm^2n^3, em^3n^4, $\cdots$, pm^n = mental succession

1, 1′, 1″, 2, 2′, 2″, 3, 3′, 3″, 4, 4′, 4″, 5, 5′, 5″, $\cdots$, x, x', x'' = objects

the objects, *as objects,* represented by such states (1, 1′, 1″, etc.) may or may not be 'similar,' may or may not be 'contiguous,' in fact, *as objects,* may never have been experienced before. While the states, *as states,* may be similar or may not be so. When we treat them logically, as Galton, for example, has done, we classify them as objects, and call them visual, auditory and the like. When we consider the objects we pursue a similar plan. But, *as psychological states,* they still remain the problem which they were at the starting-point, their *succession* remains still unexplained. I do not wish here to develop this point further, since this would lead me into the mazes of 'reduction,' 'laws,' 'forms,' etc., which I wish to leave for another paper.

A third view of association is the one which we may call the atomistic and 'popular.' In this aspect, association is considered as a cause or as an effect. As a cause it is considered (1) as a form of neural connection (the sausage-link idea), or (2) as a form of psychic connection. As an effect, it is treated (1) as the last member connected, (2) as both members of the association (the stimulus and the associated idea), or as both members plus their connection and (3) as a form of free revival as opposed to 'complication,' 'assimilation' and the like.

I think it necessary, however, to discard any analysis which implies atomism and which is directly opposed to the facts, and if association is not to be cast aside, if it is to be treated with its former respect, it must be defined anew.

There are two aspects of association to which in any discussion, more or less emphasis is given, or more or less neglect is paid. First, we may try to formulate a theory by analysis of the present moment as a development of past experiences. Second, we may consider association as free revival. In the former case, emphasis is laid on the first member in the revival; in the latter, consideration is paid to the *second member,* in relation to the first. In the former case, we have an arrow pointing from the past to the present; in the latter, this reference tends to disregard the past, and the arrow points from the present futureward. In the former case, we must consider the different forms of assimilation, complication and the like; in the latter, free revival alone is, it seems to me, rather narrowly treated as association. I shall try to give emphasis to both aspects.

[14] See my 'Unity of Mental Life,' this JOURNAL, Vol. II., No. 18.

Now, viewing the present moment in the light above shown (see pp. 3 and 4), and representing this by $p\, m^x\, n^y$, this present moment, with all its meaning, with the concomitant attitude, with its tendencies 'initial' and 'fromward,' may be considered as an immediate 'cause' of what succeeds, and also as a development of all that has gone before. Considered as a cause in this sense, association I would define as the *functional development of a psychophysical disposition.* In this development, moreover, I would consider not only the development as such, but also any interconnection with other dispositions which may be present, the impulse or tendency of the revived state to pass on to another, and its tendency to leave a trace of itself for future revival.

In the second aspect, association is treated as free revival and the second member is emphasized. Now this second member may be considered as *implicit* in the first, and not as something *added;* as a development *out of* the first, and not as something pasted on; as an explication of the first, rather than an agglutination; in short, as an effect. As an effect, therefore, I would define association as the *realization in serial order of the continuity implicit in the present moment.* As regards the members of any association considered *in abstracto,* I think we can safely use the terminology employed by Cordes,[15] to represent the first or the second member in free revival as the *A-phenomenon* or the *B-phenomenon.* The fusion, assimilation, complication, present in the A-phenomenon are those explained by Wundt.[16]

Gathering together any stray ends, we may represent association briefly as follows: Association, as A. The functional development of a psychophysical disposition, implying, (1) development, ((*a*) fusion, (*b*) assimilation, (*c*) complication); (2) interconnection (system); (3) impulse to pass on; (4) deposition of the whole as a trace. B. Serial revival of the continuity implicit in the present moment.

What has been briefly presented above seems rather simple; and to a casual reader may probably appear almost self-evident. But the implications in this point of view are far-reaching, and if fully explicated will, I think, do away with the hair-splitting 'reductions' to some 'law' or 'laws' of association as basic, and relegate the 'forms' to the logical domain where they belong. The treatment of those well-known 'laws' of association, contiguity, similarity, contrast and the rest, I have left to one side. My aim has been to clear

[15] 'Experimentelle Untersuchungen über Association,' *Philosophische Studien,* Bd. 17, 1901.

[16] 'Grundzüge,' III., pp. 526–544.

the way a little towards a fuller appreciation of what association *is*, preliminary to a more or less adequate discussion of its various 'laws' and 'forms.'

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THE PSYCHICAL COMPLEX CALLED AN INTEREST

THE psychologists of to-day have given up the theory of faculties of the mind and have substituted the concepts of processes such as associative, affective, volitional processes. They have discarded the notion of mental pigeonholes and speak of trains of thought, the stream of consciousness. Just as there are different kinds of processes, so there are different varieties of the groupings of ideas. The fundamental difference between the pigeonhole concept and the stream-of-consciousness concept is, that, whereas the first supposes facts, once made a part of consciousness, to return to consciousness, by the aid of an ego or will, identically the same, the latter recognizes that no two states of consciousness can ever be identical, and that they come back by virtue of some quality in themselves. The type of the old view is a memory, of the new, an interest.

To be sure, the concept of interests is more or less nebulous at present, as has been pointed out in a previous article,[1] no clear-cut distinction being made between interest and interests, neither has there been a careful analysis when it is obviously one or the other which is meant. In the above-mentioned article an attempt has already been made to show that interest is one kind of attention, the attitude of mind where some idea or group of ideas is prepotent over its concomitants in arousing and controlling a consenting consciousness. For the present we shall only say that an interest is a train of ideas which is present when one is interested.

Every one knows in a general way what is meant when we speak of a man's interests. We say of a man he has a real interest in the work of the church, in his family, in his profession, etc. We mean that he has thoroughly organized and permanently established trains of thought, certain emotional experiences, and regular modes of action which can be called into consciousness by certain stimuli, in themselves perhaps insignificant. As James says:[2] "In mature age we have generally selected those stimuli which are connected with one or more so-called permanent interests, and our attention has grown irresponsive to the rest."

[1] Boggs, 'The Attitude of Mind Called Interest,' this JOURNAL, Vol. I., No. 16.

[2] James, 'Principles of Psychology,' Vol. I., p. 417.

Although in a general way we know what we mean by interests, still, from the multiplicity and variety of its meanings differences have arisen in its interpretation by different writers, and it is not a mere coincidence that the psychologists who have treated interests most systematically are the ones who have also directed their studies to the subject of education, for they have discovered that interest is the correct form of attention which insures sound and rapid learning, and they regard the organization and formation of interests as the chief end of education. Indeed, one psychological writer in speaking of the great reforms in the schools of the country, says: 'The change is largely attributable to the illumination which has come from psychologists regarding the nature and meaning of interests.' Herbart, who first introduced the concept of interest, writes of it as self-activity, and divides the interests of the human mind into six classes: the empirical, the speculative, the esthetic, the sympathetic, the social and the religious. This is an admirable classification in some ways, but it seems to unite the idea of different sorts of mental activity with the idea of different fields of thought. Dewey writes:[3] 'An interest is primarily a form of self-expressive activity.' This involves the idea of desire, which can not be abstracted 'from the active process of self-expression.' Baldwin writes:[4] 'Suppose we begin by defining a man's interests as that which he wants and is willing to put forth some effort to obtain.' James says:[5] 'Its own body, then, first of all, its friend next, and finally its spiritual dispositions, must be the supremely interesting objects for each human mind.'

Now what is the common factor in all these views? Obviously enough, it is the idea of self. Why not say an interest is a self? In a state of interest, consciousness becomes an apperceiving self which seeks to bring some relevant idea into a closer relation and make it a part of its own apperceptive self. Now it is true that in a state of interest, we are less conscious of ourselves as a self, distinguished from a not-self, as an ego distinguished from an outside world, than in almost any other state. The self idea is lost sight of in the content of consciousnss. There is no thought that I am doing this, thinking that, apart from the content of consciousness, but my whole being is pouring itself out in one channel, and this is called self-activity, because consciousness is felt as a unity as regards the self and not-self. That it is called self-activity shows that one sometimes thinks of ideas, not a self, being active and working by their own force as well as the ego, the self. Now, of

[3] Dewey, 'Interest as Related to Will,' Herbart Year Book, 1895, p. 221.
[4] Baldwin, 'Social and Ethical Interpretations,' p. 14.
[5] James, 'Principles of Psychology,' Vol. I., p. 323.

course, in such a case it is only two sets of ideas blocking each other, the more habitual or emotional being the self, neither one having an idea sufficiently powerful to obtain control of the situation.

It is only by reflection and introspection that it has been seen that the state designated as interest is the whole of consciousness; the self working along one line as a unity so that it seems almost a paradox to say that when one is most truly one's self, one seems to be the least 'selfy.' So we have chosen the word 'interest' to designate the content of consciousness when the self is absent by virtue of its being the whole of consciousness. The central controlling idea is one very different from the self idea which tries to control consciousness in the state of voluntary attention, and from the self-idea on the verge of one of those tremendous decisions when one feels that against this self are arrayed 'the world, the flesh and the devil,' and the entire force of one's nature seems to be concentrated in this self. Of course there are selfish interests when the thought of self is the controlling idea, me as a body, me as a parent, me as a teacher, but they are objects of thoughts in no way to be identified with the active self, the thinking subject which holds in solution the opposing forces of consciousness and can by its own force control the issue.

In a state of interest the self is a sort of a submerged self. We say, 'I am interested,' 'the thing interests me,' 'the thing is full of interest for me,' the only difference being the degree with which we feel that the self is involved, the degree with which we give ourselves up to the object. From attributing the power to the ideas to control us, we speak of them as possessing interest, and it is in this sense that interest has been used so much, as if it were some innate quality of an idea or topic. As a concrete term it is out of place, but we can not object to its use as a general name and agree with James when he says:[6] "If one must have a single name for the conditions upon which the impulsive and inhibitive quality of objects depends, one had better call it their interest. The interesting is a title which covers not only the pleasant and the painful, but also the morbidly fascinating, the tediously haunting, and even the simply habitual, inasmuch as the attention usually travels on habitual lines, and what we attend to and what interests us are synonymous terms." Ribot has selected this word also for the complex causes of attention:[7] "We have endeavored to establish in the present work the thesis, that the immediate and necessary condition of attention in all its forms is interest—that is, natural or artificial emotional states—and that, further, its mechanism is motory. Attention is not a faculty, a special power, but a predominant intel-

[6] James, 'Principles of Psychology,' Vol. II., p. 559.
[7] Ribot, 'Attention,' p. 111.

lectual state, resulting from complex causes that induce a shorter or longer adaptation."

The failure to allow some other idea than the self-idea to be the supreme one is responsible for many pathological cases. Such people are continually thinking of 'me' as an active self, reducing it to its narrowest limitation and holding it firmly against all other ideas. The remedy for this condition is in just the opposite way of treating one's self which Mrs. Call describes:[8] "At first it seems impossible to hold one object in mind for a minute, but the powers grow rapidly as we learn the natural way of concentrating, and instead of trying to hold on to our subject, allow the subject to hold us by refusing entrance to every other thought. In the latter case one suggestion follows another with an ease and pleasantness which remind one of walking through new paths and seeing on every side something fresh and unexpected." The real secret of Christian Science is just this surrender of the thought of a suffering, acting self for some other idea. A patient feels that his acting self is helpless and lets in the idea of God's goodness, or whatever the healer may suggest.

In résumé we may say that the relation of self and an interest is this: an interest is a train of thought with some prepotent idea occupying and controlling the whole of consciousness, and, therefore, it is for the time being the self; but the prepotent idea is never the idea of an acting self; the acting self is submerged and some other idea takes the center of the stage.

The question comes naturally, what are the interests of the human mind, and whence do they come? We have noticed that different writers use interests and instincts interchangeably, which indicates at least a very close relationship. But though in actual life interests and instincts are merged into one another, the two concepts are entirely different; just as, *e. g.*, we find difficulty in distinguishing different greens and blues, though our concepts of the two are perfectly distinct. Take instinct in the usual meaning, a faculty for doing certain things without any foresight of the end or any practice in the doing of itself. According to psychology and practical life the important thing about a train of thought is its conclusion, its meaning. Now it is just this presence of the meaning which constitutes the prepotent idea of interest. We have, then, this difference: an instinct is a train of thought or line of action without foresight of the end or practice in the means; an interest is a train of thought which is controlled by the conclusion, by the end to be reached. A spider spinning its first web is a beautiful example of instinct; Marconi toiling over the wonderful problem of wireless communica-

[8] Call, 'Power Through Repose,' p. 140.

tion is a splendid example of interest. Children come into the world with many instincts and develop many more as they go through the first years. Professor James thinks that man has more instincts than any animal, but says of interests that notwithstanding their great active energy, children have few organized interests by which to meet new impressions. The interests, he believes, have their origin in instincts, and not only the temporary interests, but also 'the permanent interests are themselves grounded in certain objects and relations in which our interest is immediate and instinctive.' The process of a child's mental development is the gradual building up of interests out of instincts. After certain ends have been attained through instinctive action, they become means to ends premeditated and desired. The transition from instincts to interests is the process of the initiative arising in the child, instead of coming from the environment to the child.

Concerning the continuity of the child's development from instincts, Baldwin has this to say:[9] "First, we have found, in the preceding chapter on the 'Emotions,' that there is no break of an absolute kind between the epoch which, on the side of the instinctive life, we called respectively 'organic' and 'spontaneous'; and, on the other hand, there is likewise none between the spontaneous and the reflective epochs. This was made plain from two points of view: The emotional expressions of the organic epoch are utilized in the higher epochs by a natural transition from the lower to the higher type of function. Further, the child shows no great breaks in his development from instinct, through suggestion and direct imitation, to reflection, at least, on the side of the emotional movements of his modesty, sympathy, play activities, etc." Instincts are transitory, as is well known, and the interests immediately arising from them are temporary for the most part, few of the interests of adult life and old age being found in the child. However, in those people who keep young we do find just that, the same interests at seventy as at ten, though vastly modified and enriched through personal experience and social contact. On the other hand, the precocious child is one whose interests are those of matured years and indicate a too rapid development through the instinct stage.

But while interests are based on instincts, their development and organization are dependent on the stimuli which come to the child through contact with the objects of sense and with other personalities. Much of the work done along the line of child study has been to discover what objects of the senses are most attractive to the child, and a very important work it has been. The ideal way of educating a

[9] Baldwin, 'Social and Ethical Interpretations,' p. 260.

child is to place him amidst a variety of objects and events so that there may be choice as to objects attended to. Learning to choose the objects of one's activity is of as much importance as putting forth the activity. In general one may say that the objects in which the child becomes interested are those which afford the largest, freest play of his ideas and muscles. These objects may gain this attractiveness from other objects already interesting, from the intensity of the sensations they give, from their being often before consciousness, from the pleasure or pain arising from them. Likewise the child is influenced by the people who seem to him most like what he wants to be, and so the principle of imitation comes into play.

As you are well aware, then, there are many different interests, as many as there are different subjects which occupy the mind, but one point must be made clear, namely, the organization of every interest is alike. As animals advance up the grade of intelligence, their lives become more and more complex. As the race becomes more civilized the minds of men become more complex, and so the child has inherited a brain which is capable of a rich and varied activity. In the multitude of impressions and ideas which swarm into the consciousness of the child some idea naturally becomes more powerful, and out of the confusion there arise order and organization. It is here that the work of education must come in. It is hard to make a child attend by mere command to this or that, but it is easy to follow a child's thoughts, wayward and fluctuating as they are, and by force of a larger experience and a stronger personality halt them here, direct them there, turn them into new channels or help find the old beaten paths, until the desired ideas have, through associations of every sort, gained a place of power in the never-ceasing flow of consciousness. If the child learns to depend on these ideas for his further guidance, to take the initiative in new experiences with the help of the old, he is on the road to a strong, independent life. The development of intelligence becomes the adjustment of ideas, and so we may define an interest as a complex of consciousness in which some idea or train of ideas is adjusting other ideas to itself. The man whose predominating ideas can awaken all the resources of previous experience, bring the relevant into close relationship, casting off at once the irrelevant, which can hold itself secure against all rivals in consciousness, which suffer decay only to spring up Phoenix-like, new born, again and again, with renewed vitality, which can find points of attachment in ideas which the rest of the world overlooks, striking out into new and unexplored paths, such a man is a man of the highest intelligence.

To sum up in a last word: An interest is a train of thought

having a central prepotent idea which arouses and organizes the relevant ideas into a permanent relation to itself. This central idea is one which gives to the whole of consciousness its meaning and it crystallizes itself into a conclusion which may be a practical resolve, a general notion, a solution of a problem or anything representing the ideal striven for. It may be likened to the gold of the psychological smelting process, always there but awaiting the refining process to become an available product for future use. An interest is a self in that it is the whole of consciousness, but the idea of self is conspicuous by its absence. So far as we know, all interests are a natural and logical development from instincts, though, owing to the transitoriness of instincts and the complexity of psychical life, the thread of connection is not always in evidence.

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DISCUSSION

THE ISSUE BETWEEN IDEALISM AND IMMEDIATE EMPIRICISM

THERE are, I am sure, many students of philosophy who are in sympathy with much that the 'newer' movement is accomplishing, and in particular with its insistence upon greater respect for experience, greater sobriety of philosophical construction, greater freedom of play for the individual, a fuller recognition of the thoroughgoing primacy of the practical, who are in sympathy with its humanism and anti-absolutism—not to speak of the life that it is injecting into the dry veins of epistemology—and yet who find themselves unable to follow its radicalism in a good portion of what it denies, or to accept its definition of what is left. Now it seems quite evident that we would come to a better mutual understanding if we should stop long enough over our fundamental conceptions and postulates and points of departure to clear away all initial ambiguities. It was with this end in view that I addressed my letter to Professor Dewey.[1] His reply[2] seems to me to preserve the ambiguities of his first statement,[3] and to further confuse the issue.[4] It is with the

[1] 'An Open Letter to Professor Dewey concerning Immediate Empiricism,' this JOURNAL, Vol. II., No. 19.

[2] 'Immediate Empiricism,' *Ib.*, Vol. II., No. 22.

[3] 'The Postulate of Immediate Empiricism,' *Ib.*, Vol. II., No. 1.

[4] As an illustration of the ambiguity referred to, take the following: "I do not understand the notion that because things of immediate experience are real, mediation can not be real" (p. 599). I do not either, and I wonder who

purpose of sharpening the issue between idealism and immediate empiricism that I continue the discussion.

The very term 'immediatism,' which Professor Dewey suggests to describe the 'newer' philosophy, promises to bring into relief the precise issue created by the radicals. And if we are to make any progress in our discussion, this issue should not be obscured by irrelevant cross-firing. We can at least be clear at the outset as to what the issue is not. It is certainly not an issue between immediatism and the sort of a thing reached by Professor Dewey's entertaining parable of the botanist. Such comments only divert attention from the point in dispute by firing at a man of straw. At least, in my reading of philosophy, I am unable to find any idealist who can fairly be charged with anything like the attempt to spin a botany out of concepts, although it must be admitted, every one, philosopher and scientist alike, is more or less chargeable with the human frailty of giving his well-grounded conceptions a larger scope than their actual grounding warrants. And, once for all, the immediatist should recognize the fact that the idealist does not hold that 'there is a world of pure delight' where categories immortal reign, far aloof from the world of experience. They live in experience and give it its meaning. And one can not evade the idealist's criticisms by tossing the critic up into the cold circumambient ether. The antithesis is not between a philosophy grounded in experience and a philosophy manufactured in a den of abstractions. For the idealist also holds that his philosophy is grounded in experience; from experience it starts, to experience it ever returns. But the difference comes out in the interpretation of the nature of experience. Experience is a treacherously ambiguous word. For the idealist, experience is always a complex of the immediately perceived and the mediately conceived, and that no matter how far one goes down the scale for his starting-point; and therefore immediatism of itself can supply neither starting-point nor method.

The very conception of immediatism as furnishing starting-point and method seems therefore to draw sharply the lines of the issue. But unfortunately the old ambiguity about experience forthwith creeps into Professor Dewey's account of immediatism. That conception seems to mean two very distinct things. One meaning seems formally in accord with radical empiricism, but deprives of meaning the quest after truth; the other restores the meaning of that quest

does. But if one first identifies 'reality,' the '*things of* immediate experience,' with the immediate experience, as the immediatist explicitly does (see Professor Dewey's original article), then it is hard to see how in that sense mediation can be real and still be mediation.

but only at the cost of abandoning the standpoint of radical empiricism.

The question is: How, strictly, are we to interpret the word 'immediate'? The illustration of the Zöllner lines seemed to leave no doubt as to the meaning intended. There, immediate experience is taken as the direct, unmediated, here-and-now experience. When, further, the real thing in question is postulated as one with the immediate experience so taken, and the thing is regarded as precisely what it is immediately experienced as, then in place of speaking of solving problems and correcting experience would it not be a more accurate description of the situation to say: In the process of evolution one immediate experience (reality) gives place to another immediate experience (reality)? Now it does not at all fit the case to declare, Johnsonian-wise, as Professor Dewey does: But there are real problems, and we do go to experience to solve them. Of course! But is it not true that the problem in each case is a real problem only because the real thing in question is viewed as *not* just what it is by me immediately experienced as?[5]

But at this juncture, and to make the postulate tally with the facts, does not Professor Dewey substitute another, and quite different, interpretation of immediate? It now appears that the immediate experience which shall be equivalent to the reality (of the seed, for example) is what I at present immediately experience it as, *plus* all that I have or shall experience it as, all that I might experience it as were my powers sharper, all that my fellow men experience or might experience it as; *plus,* furthermore, all its thought relations, all its linkages to other things, past and present, all the principles of such linkages. Over all these is thrown the blanket of immediacy. For we are informed that besides immediately experiencing the immediate, one immediately experiences mediation, one immediately experiences categories, concepts, continuity; and these things also really *are* just what they are immediately experienced as. And that, further, the immediate experience which shall be one with the reality of the thing experienced, includes the possible as well as the actual immediate experiences of these several kinds, seems clearly implied in the illustration given, for in the case of the seed one certainly conceives of its continuity of development, and its mediation with other experience, as real beyond the actual immediate experiences of any,

[5] Professor Dewey insists that from the postulate of immediatism not a single philosophical conclusion can be drawn, and accuses me of assuming from the very notion what the character of experience shall be. I have assumed nothing whatever about the character of experience, except that if immediatism is to give us a new method we must be able to find our starting-point in immediacy. Experience does not give us such a starting-point.

or all, observers. But to call the object as conceived in its inmost structure, and placed in its total setting, the object as immediately experienced, is a confusing use of terms.

This shifting of the meaning of immediate is given plausibility by the fact that thoughts also, like things, and immediate experiences, actual or imagined, are together warm in the unity of one's own experience. The *ich denke*—however interpreted—is continuously present in all one's speculations; concepts are not out in the cold. But when one identifies the reality of the thing with the immediate experience taken in this comprehensive and pregnant sense, is this not equivalent to saying that the real thing is the thing as it might be immediately experienced by a universal thinker or experiencer viewing all things *totum simul,* after the manner of the Roycian absolute? This is not what immediate means when we refer to our own experience as immediate, for then the here and the now, and the negative prefix, are of the essence of the conception. And, taking immediacy in this enlarged and general sense, as noting that aspect of direct ownership, of personal appropriation, which is always found in concepts and principles of mediation, so far as these are given any definite meaning, quite as much as it is present in percepts—this is a fact fully taken into consideration by idealism, as well as the fact that 'conceptions enter into experience.'

What the idealist denies is that 'any single actual experience, as existent or as known, is immediate, and simply immediate.' Not that he denies immediacy, but that he affirms mediation to be equally fundamental. Nowhere in experience does he find sheer immediacy. Further, the principles of mediation can not be analyzed into immediate experiences without losing their unique meaning. He can not see any hope of success in the method of immediatism, since he can find no fact in experience of such a kind as facts must be if immediatism is ever to get a fair start. The facts of experience are one and all, and from first to last, tainted with mediation. One calls upon the experience philosopher to give us a method which recognizes this obvious fact. Otherwise, immediatism, as a method, seems as artificial, abstract, untrue to experience, as any barren conceptualism that can be imagined.[6]

[6] The immediatist is fond of tautology. 'I don't see any way of experiencing the mediate,' writes Professor Dewey, 'excepting that of immediately experiencing it *as* what it is.' Having previously declared experience to mean immediate experience, this is idle declamation. The question is whether the principles of mediation (causality, for example), as we actually think them, and as we employ them in getting any definite experience, as well as in further defining and interpreting experience, can be adequately described wholly in terms of immediacy.

The question, in short, is: Precisely what does immediate mean in the latest formulation of the new philosophy; how strictly is it taken? If taken strictly, how does immediatism escape the fate of Hume? If loosely taken, how does immediatism differ from idealism after all? What we need is the immediatist's account of the 'categories,' the 'a priori,' the principles of mediation, by whatever name, in terms of immediacy strictly taken.

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REVIEWS AND ABSTRACTS OF LITERATURE

University of Iowa Studies in Psychology. IV. Psychological Review, Monograph Supplements. Vol. VI., No. 5, March, 1905. Pp. 118.

This number of the Monograph Supplements contains three papers from the Psychological Laboratory of the University of Iowa. The first paper, 'Perimetry of the Localization of Sound,' by Daniel Starch (pp. 1–45), aims to obtain an accurate measurement of our capacity to differentiate the directions of tonal stimuli and to determine what sense-data constitute the basis of auditory localization. The apparatus employed was a Seashore perimeter, the stimulus being supplied by an electric fork; the method was a modified form of the method of right and wrong cases. The experiments consisted in sounding the tone first from a standard and then from a comparative direction and asking the subject to report the relative direction of the second stimulus. It was found that errors were most numerous when both tones came from points in the median plane. But when one stimulus came from the median plane and the other from a point slightly temporalward from the first, the conditions for accurate discrimination of direction were optimal. Localization was slightly more accurate in the anterior than in the posterior quadrant; and the difference limen was relatively high when the stimuli came from the lateral regions of the field. A remarkable feature of Starch's results is his discovery that the progressive refinement of function from relative obtuseness in the shoulderward directions to relative acuteness before and behind, is by no means constant or uniform; the degrees of sensitivity determined at these and intermediate points are not to be represented graphically by anything approximating a regular curve, but by a series of abrupt troughs and crests. The difference limens of adjacent regions frequently differ by as much as 100 per cent., and in one instance (fig. 7) by 200 per cent. In order to account for this irregularity the author assumes the existence of a system of auditory local signs; he supposes that every auditory direction possesses its own peculiar shading of intensity, pitch and clang-tint. No attempt is made, however, to correlate these direction-marks with peculiarities of structure of the auditory organ, *i. e.*, to refer the quantitative and qualitative differentiæ which are held to be characteristic of a given direction to such phenomena of reinforcement and analysis as might be expected to result from the form

or inclination of that part of the curvilinear surface of the pinna upon which sound-waves from the given direction impinge. Nor is the reviewer convinced that the irregular distribution of sensitivity which Starch reports may not be due, in part at least, to the small and unsymmetrical dimensions of the room in which the experiments were conducted. Would this irregularity occur with localizations made in the open air or in a large room where the influence of reverberation from the walls, floor and ceiling is reduced to a minimum? Among the sense-data which might constitute a basis for the localization of auditory stimuli, Starch assigns a leading rôle to the intensity factor. Cutaneous and muscular sensations and apparent variations of pitch and clang-tint are also held to furnish a clue, and thus to render monaural localization possible.

In the second paper (pp. 47–101) Professor Seashore and Miss G. H. Kent report an investigation of the fluctuations of mental efficiency which occur during a prolonged period of mental work. A two-hour period was selected for investigation, and the mental work consisted in attending continuously to the tests which were employed in the successive determinations of the psychical efficiency. These determinations were made in a threefold manner: The subject's varying degree of sensibility was measured by determinations of the liminal intensity of a waxing and waning tone; his sensitivity was measured by his capacity to discriminate between tonal intensities; and his memory was tested by his ability to reproduce a series of tonal intensities in the order in which he had heard them. The results of the investigation show that periodicity is a characteristic of mental work; all three types of mental activity covered by the experiments manifest a well-marked recurrence of phase. The authors analyze this fluctuating wave of mental efficiency into three components or partials, which they designate, somewhat arbitrarily, second-waves, minute-waves and hour-waves. The second-wave has a maximum duration of only a few seconds,—its length being dependent upon the type of individual and the conditions of his work. This wave is itself composite; it is a resultant of relatively long waves of secondary passive attention and relatively short waves of active attention. The minute-waves may vary from a few seconds to twenty minutes in length. They are a function of practice and training; when the work is such as may be perfected by training, the minute-waves tend to disappear from the records. The causes which condition the hour-waves were not discovered; it was found, however, that their length tends to decrease as the work progresses. The authors call attention to a fourth type of wave,—the diurnal waves of efficiency, which are due to the refreshing influence of food, sleep and recreation.

The closing paper is an uninspired study by Dr. J. B. Miner of 'A Case of Vision Acquired in Adult Life' (pp. 103–118). Dr. Miner's patient was a young lady who had had a complete congenital cataract removed about three years before the present investigation was undertaken. The author proposes to 'utilize the modern laboratory equipment for testing systematically and quantitatively the senses and the learning

process of a blind person who has been made to see,' and incidentally to examine the validity of the popular tradition 'that the loss of sight in a blind person is compensated for by a greater keenness in the other senses.' But this program is unfortunately not carried out. The sensory tests instead of being systematic and quantitative are haphazard and inaccurate; and the results are recorded in such form that comparison with normal sensitivity is in most cases impossible. For instance, the problem of passive touch is dismissed with a single short sentence. The determinations of the limen of twoness 'were not numerous enough to be accurately stated.' The stimulus-limen of active touch is expressed in terms of the number of sheets of paper through which a fine wire could be felt,—a statement which is unmeaning as it stands, and no normal records are presented for comparison. No serious attempt seems to have been made to determine the kinesthetic sensitivity. The author reports that "with the tuning forks she distinguished, nine times out of ten, a difference of eight vibrations from the international *á* (435 vibrations). Tests with the audiometer also indicated that she was not far from the average in her discrimination and liminal (!) thresholds for sound." Other investigators have found that the normal difference limen for this region of the tonal scale is less than .3 vibrations; Dr. Miner confined his tests to a stimulus difference of eight vibrations and naïvely remarks that his patient's 'discrimination of simple tones was not unusually keen.' "Preliminary work with the spectroscope idicates that her spectrum is about one fifth longer than the average of ten students. The length is added to the violet end. I suspect that this difference is largely due to a difference of interest in the test (!)." "Accurate tests were made upon her ability to discriminate distances with both eyes compared with her monocular ability. Different sized balls were hung at varying distances from her. Using only one eye she judged them to be at the same distance when one was 15 cm. farther away. But the difference between the two balls was narrowed down to 6 cm. when both eyes were converged on one ball and then on the other." Just what this experiment is intended to demonstrate is not clear from the text. It seems unfortunate that Dr. Miner does not take the reader into his confidence at least to the extent of stating the sizes of the balls and the absolute distances at which they were suspended. The investigation of the *Lernprozess* is concerned for the most part with the development of space perception, and more particularly of tridimensionality and distance. The most interesting feature of this part of the study is the discovery that the early vision of the 'born-blind' is characterized by an utter absence of retinal rivalry, and a lack of fusion of the two retinal images. In her earlier experiments with the stereoscope each retinal image persisted independently of the other, and her visual objects appeared in duplicate. The author takes this result to mean that normal binocular vision is a capacity which one gradually acquires through experience.

Several printer's errors have crept into the text: 'irresistable' p. 72,

'breadth' (for 'breath') p. 72, 'eductional' (for 'educational') p. 118, and 'oculist' is spelled with a double 'c' on p. 112 and again on p. 114.

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What Pragmatism Is. C. S. PEIRCE. *The Monist,* April, 1905.

This article is the first of a series of three, and consists in an exposition of 'Pragmaticism.' It is to be followed by a second, presenting examples, and by a third, which is to furnish proof and establish the truth of Synechism. As a designation for his own views the author coins the term Pragmaticism, in place of Pragmatism, since the latter has become too broad.

The meaning of a concept is reduced to that which shall have a bearing on human conduct, and, since only experimental phenomena can have such a bearing, is confined to experimental phenomena. The significance of such phenomena is that they are general and lie in the future. Since they are general, they are not determined by this or that special purpose or accidental circumstance. They are, however, significant for rational purposes and conduct just because of this generality. Reality is defined as that which is independent of what you or I may think about it, and truth as that which represents reality. The laws of nature, for instance, are true and represent a real. Not all generals, of course, are real, nor, apparently, are all reals generals. But generals of the experimental type are real and constitute the only meanings of Pragmaticism. Pragmaticism aims at a rational conduct whereby these generals may become more and more embodied in reality, for generals are effective in the determination of human conduct.

Truth, again, is defined in terms of fixed belief, the fixation being the result of the continuation of an experimental process. It is similar to that ethical process whereby, from the anticipation of results and reflection upon them, action, by this process of self-control, becomes more and more free from the necessity of self-reproach upon reflection. It thus becomes fixed in character, or destined, and the process of self-control is no longer necessary.

As belief becomes fixed by this process of prevision and reflection, it becomes more and more independent of the accidental and merely individual, and when it has reached the point of absolute fixation, it is true and represents a real. Beliefs are thus of the habit type and mostly unconscious. Mr. Peirce emphasizes the necessity of accepting the most, at least, of our instinctive beliefs, and says that what one can not doubt must be for him the absolute truth. As I understand him, however, the mere fixation of belief by lack of stimulation or effort is not sufficient. The process is of such a type that no amount of individual aberration can prevent the final form of fixation. In this way the ultimate course of belief is destined.

The test of a concept, then, is not merely that it terminate actually or conceivably in a percept, nor that it be followed by action, but that

it represent a uniform process, that it have been built up into a fixed belief as a result of the experimental method, and that it be significant for the direction of rational conduct.

The system is thus opposed to a pure sensationism or voluntarism, but it would restrict the field of metaphysics to problems capable of solution by experimental methods.

What is the significance in this system of immediate experience and purpose? The test of a concept, at least, is that it be absolutely general, that it be indifferent to special purposes or circumstances, and the test of belief and so of truth is that it be fixed as a result of a process which is destined and is uninfluenced by individual aberration. If the reviewer correctly interprets certain forms of Pragmatism as making the criterion of truth significance for present purpose and not purpose in general, we would apparently have here a point of difference. If this process of fixation is to be absolute, must not all problems be settled before we can have a fixed belief, and so truth, and so reality of this type? Since belief tends to become unconscious as it becomes fixed, would not our test not only be in the future instead of the present, but also point to a condition of things in which experience itself had ceased to have significance and even to exist?

Reality is defined in terms of independence of what you or I may think about it, and fixed belief and so truth is said to represent reality. Probably Mr. Peirce does not intend to imply a correspondence test of truth, but if not, we still seem to have the difficulty cited above in regard to the test requiring a transcendence of individual and possibly of all experience.

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The Herbert Spencer Lecture, Delivered at Oxford, March 9, 1905, by FREDERIC HARRISON. Oxford: The Clarendon Press.

Though Mr. Harrison is not a Spencerian, but a Positivist, this lecture was not intended to be controversial. By universal agreement Spencer must be considered a great philosopher; and, further, as a man with a purpose in life, from which he could not be distracted, and in which he persevered through an unremitting pressure of physical ailments, a character of a very noble type. He is the only English synthetic philosopher. How much of his system, then, can be taken as permanent?

Spencer's definition of philosophy is correct. Philosophy is the generalization of all the sciences into their ultimate coordination. And synthesis means coordination. So far Spencer and Comte agree. Evolution (not in a sense commensurate with Darwinism) is Spencer's synthetic principle. But is philosophy the science of the sciences; is such a correlation of human knowledge either possible or needful? The vogue of Spencer, the craving of the mind for some coherent system, would indicate that an ultimate generalization of human science is possible.

But, again, is Spencer's generalization the correct one, and destined

to receive final acceptance? In six fundamental points in which it agrees with the Positive and all empirical systems, the answer must be, Yes. These fundamental points are: (1) *The universal reign of law;* (2) *the law of constant evolution, i. e.,* the development of each cognizable state from a preceding state; (3) the relativity of knowledge; (4) the relegation of unverifiable hypotheses to a world outside of positive science; (5) the aim of philosophy is a synthesis of the sciences; (6) the aim of life is the amelioration of the material, social and moral conditions of the human organization.

But evolution as an ultimate law is a paradox. Such a generalization of the cosmos is beyond the range of a relative mind. Spencer's evolutionary principles have an illuminating value for the sciences, but they leave no room for that order which is beneath all progress. They are limited by hypothesis to dynamical movements. But there is also a statics of the sciences, and this is probably more useful than the first. It is also extremely doubtful whether the principles of evolution can be applied to the inorganic sciences with advantage. Finally, no one set of laws can be applied to all sciences, both human and cosmic. To reason about the soul in terms of physics is materialism. The moral and the physical worlds are not reducible to the same terms. No one formula will explain the rotation of the earth and the French Revolution.

Another strange lacuna is the absence of any philosophy of history. Indeed, when one sees the enormous gaps and inconsistencies one doubts whether the very basis of the evolutionary system can be philosophically sound.

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The Knowledge of Good. W. R. SORLEY. *Hibbert Journal,* April, 1905, pp. 543–557.

This article, which is an address delivered before the St. Louis Congress last year, is essentially a discussion of the meaning and logical origin of the concept of goodness. Starting from the familiar division of judgments into those of facts and value, and noting cursorily the distinction of esthetic, logical and utilitarian values, the author passes to the consideration of the meaning of moral value, or goodness. His problem is, specifically, to determine whether this quality pertains to objects altogether out of relation to human life and purpose or whether it characterizes them only as produced by a good will. The answer to the problem is to be found by investigation of the actual function of the ethical judgment in experience. Appeal to this moral usage shows that although we find occasionally an arraignment of the course of nature by a Mill or a Huxley, yet it shows that such moral judgments are made only with the implication of nature as at least hypothetically manifesting purpose or serving as a standard of values. All the evidence is against the idea that goodness is a quality of things out of relation to self-conscious activity, and hence 'the peculiarity of the moral experience would seem

to be better brought out by the conception *ought* than by the conception *good.*' But to say that anything ought to be done seems to imply the previous goodness of the action independently of will. This is true, we must distinguish between the particular goodness for the individual and the goodness in general which is presupposed in it. The special obligation rests upon the individual only as his action is part of a large systematic purpose independent of his private will, but this larger good or purpose is evidently not independent of will in general. Our knowledge of good, therefore, is to be obtained only by the study and criticism of our moral judgments, since only in these purposeful reactions upon our experience is the good given.

While nothing can be said against the author's general conclusions on the subject of ethical method, some confusion is undoubtedly introduced into his discussion by his failure to distinguish between several quite distinct problems. First, is our attitude toward, and our judgment upon, rational and non-rational objects the same? Second, do objects or actions which are not the expression of purpose have the quality of goodness? Third, is goodness, wherever found, relative to an appreciative or practical consciousness? Professor Sorley seems to have considered only the first. He has shown readily enough that morality is a matter of purposeful action, but he has not shown that goodness is relative to an appreciative consciousness.

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The Method of a Metaphysic of Ethics. W. R. SORLEY. *Philosophical Review,* September, 1905, pp. 521–534.

This article is supplementary to that in the *Hibbert Journal* by the same author and defines the relation of his ethical method to metaphysics. Ethics must add to its history and description of the moral life a critical estimate of the value of its principles, and the question is as to whether this involves metaphysics and, if so, as to what is the nature of such a metaphysics. A metaphysic of ethics, in contrast to an ethical metaphysic, is one in which ethical principles are based upon a general theory of reality, but there are quite distinct types of such systems. Kant's theory is really an ethical metaphysic, the conception of reality being drawn from an analysis of moral experience. Hegel gives us perhaps the traditional type of a metaphysical ethics in that the general principles of the science are derived, professedly without appeal to experience, from the abstract conception of being. By a purely logical process reality is shown to involve in its nature the idea of moral experience. The system of T. H. Green is typical of a more legitimate metaphysical method. The eternal self is not a conception derived from a consideration of non-ethical reality, but a principle implied in all experience, cognitive and practical. "Green recognizes quite clearly that a metaphysical theory of ethics is not a mere deduction from metaphysical principles of a non-ethical kind. It is concerned with the facts of moral experience; these

belong to its data; and it has to find a conception which will express their nature and without which their nature can not be expressed." The weakness of Green's system is not in its method, but in the inadequacy of the concept chosen to express the nature of morality and in its failure to recognize the place of moral approbation in our experience.

The author's distinctions of method are undoubtedly just, but one might pertinently ask why Green's system, as thus characterized, does not belong to the class of ethical metaphysics rather than to that of metaphysical ethics. To be sure, its starting-point is cognitive *and* moral experience, but it is experience none the less, and its method is to be distinguished sharply from that of a logical deduction from abstract conceptions of reality. One must prefer the more distinct conception of metaphysical ethics discussed in Taylor's 'Problem of Conduct,' a discussion which probably gave rise to this present article.

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JOURNALS AND NEW BOOKS

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. CXXVII., Heft 1. *Ueber Musikalische Einfühling* (pp. 1–18): H. SIEBECK. – The esthetic effect of music, as distinguished from the mere passive response thereto, requires an emotional activity, essentially imitative in character, together with the definite objectification and personification of the piece; to which imagined object, then, the emotion, as '*Einfühling*,' pertains. The emotions really determined by the nature of a musical presentation are, on the one hand, but few among the emotions we experience in life; on the other, they contain shades of feeling never before experienced. Musical *Einfühling* differs from others, in that it is more truly constitutive, rather than merely interpretative of the 'object,' *i. e.*, the piece. *Zur Begründung des Theismus* (pp. 18–34): K. ANDRESEN. – An answer to Korwan's development of von Hartmann's pantheism. Numerous logical issues are raised, but fundamentally it is maintained that to take as the beginning of the world process a merely potential union of will and *Vorstellung*, of which that process is the realization, is to overlook the nature of will, that it presupposes a partial union with the idea. Further, Hartmann's pessimistic account of the world proceeds from an estimate of it in terms of pleasure, instead of in terms of purpose. *Das Raumproblem* (*Eine unparteiische Kritik der Metageometrie*) (pp. 34–43): W. PAILLER. – A discussion of the mutual compatability of the axioms of non-euclidean geometry. *Bericht über die italienische philosophische Literatur der Jahre 1903 und 1904* (pp. 43–67): C. D. PFLAUM. – No work is singled out for special attention. Rezensionen—Schuppe, *Der Zusammenhang von Leib und Seele:* DÜRR. Adamkiewicz, *Die Grosshirnrinde als Organ der Seele:* DÜRR. Kowalewski, *Studien zur Psychologie des Pessimismus:* DÜRR. H.

Cornelius, *Einleitung in die Philosophie:* HALPERN. B. Erdmann, *Ueber Inhalt und Geltung des Kausalgesetzes:* E. WENTSCHER. M. Foucault, *La psychophysique:* A. KOWALEWSKI. M. Dessoir u. P. Menzer, *Philosophisches Lesebuch;* A. Gille, *Philosophisches Lesebuch in systematischer Anordnung:* A. MESSER. F. Mauthner, *Beiträge zu einer Kritik der Sprache:* W. UHL. Selbstausteige. Nachtrag. Notizen. Neu eingegangene Schriften. Aus Zeitschriften.

Baumann, J. *Anti-Kant.* Gotha: F. A. Perthes. 1905. Pp. vi + 196. 4 M.

Claparède, E. *Psychologie de l'enfant et pédagogie expérimentale.* Genève: H. Kündig. 1905. Pp. 75.

Crothers, S. M. *The Endless Life.* The Ingersoll Lecture for 1905. Boston and New York: Houghton, Mifflin & Co. 1905. Pp. 55. $0.75

Duhem, P. *La théorie physique, son object et sa structure.* Paris: Chevalier et Rivière. 1905. Pp. 450. 9.50 fr.

Ebbinghaus, H. *Grundzüge der Psychologie.* Erster Band. Zweite vielfach verändente und umgearbidete Auflage. Leipzig: Veit und Comp. 1905. Pp. xvi + 732. 17.20 M.

Painter, F. V. N. *Great Pedagogical Essays.* New York, Cincinnati and Chicago: American Book Co. 1905. Pp. 426. $1.25.

Titchener, E. B. *Experimental Psychology: A Manual of Laboratory Practice.* Volume II., Quantitative Experiments. Part II., Instructor's Manual. New York: The Macmillan Co. 1905. Pp. 171 + 453. $2.50.

Wentscher, Max. *Ethik.* II. Theil. Leipzig: Barth. 1905. Pp. xii + 396. 10.50 M.

NOTES AND NEWS

AT the invitation of the Philosophical Department of Harvard University the American Psychological Association will hold its fourteenth annual meeting and the American Philosophical Association its fifth annual meeting, in Cambridge, December 27 to 29, on the occasion of the opening of Emerson Hall. The associations have sent out their preliminary announcements of the meeting. The formal opening of Emerson Hall will take place on the afternoon of Wednesday, December 27, when President Eliot and Dr. E. Emerson will deliver addresses. Immediately after, the two associations will meet in joint session to discuss the subject of the affiliation of psychology with philosophy and with the natural sciences. Professor Fullerton, President Hall, Professors Münsterberg, Taylor, Thilly and Witmer are expected to lead in the discussion. The president of the American Psychological Association will deliver his address on Wednesday evening, after which there will be a reception to the

two associations at the residence of Professor and Mrs. Münsterberg. On Thursday evening the president of the American Philosophical Association will deliver his address, to be followed by a joint smoker of the two societies at the Harvard Union. A luncheon will be served on Wednesday by the Harvard Corporation. Through the kindness of Harvard students of philosophy and psychology a limited number of dormitory rooms have been placed at the disposal of the Harvard Department for assignment to members of visiting associations. They will be assigned in order of application. A nominal fee of $1 for the entire time will be charged to cover the expenses of attendance, etc. Application should be made as soon as possible to Professor E. B. Holt, 13 Chauncy Street, Cambridge, Mass. By the courtesy of the Bertram Hall Committee, twenty rooms in Bertram Hall, the Radcliffe College dormitory, will be placed at the disposal of women attending the meeting. The price of room with board will be $1.50 per day. Application should be made to Miss Hoppin, Bertram Hall, Shepard Street, Cambridge, Mass.

WE take the following item from the *Popular Science Monthly:* "The inaugural meeting of the British Science Guild was held on October 30, at the Mansion House, London. The objects of the guild are (1) to bring together as members of the guild all those throughout the empire interested in science and scientific method, in order, by joint action, to convince the people, by means of publications and meetings, of the necessity of applying the methods of science to all branches of human endeavor, and thus to further the progress and increase the welfare of the empire; (2) to bring before the government the scientific aspects of all matters affecting the national welfare; (3) to promote and extend the application of scientific principles to industrial and general purposes; (4) to promote scientific education by encouraging the support of universities and other institutions where the bounds of science are extended, or where new applications of science are devised."

THE Section of Anthropology and Psychology of the New York Academy of Sciences met on November 27, 1905, at the American Museum of Natural History. The following was the program for the afternoon and evening sessions: W. S. Monroe, 'Smell Discrimination of Students'; F. Lyman Wells, 'Linguistic Standards'; F. M. Hamilton, 'A Study of the Reading Pause'; R. S. Woodworth, 'Vision and Localization During Rapid Eye Movements'; J. McK. Cattell, 'Measurement of Scientific Merit'; Brother Chrysostom, 'Temperament as Affecting Philosophic Thought'; W. P. Montague, 'Are Mental Processes in Space?'; C. M. Bakewell, 'Concerning Empiricism.'

THE Bolyai prize, founded by the Hungarian Academy of Sciences in memory of John Bolyai, the distinguished Hungarian mathematician, and his father, Farkas Bolyai, has been awarded to M. Poincaré. The prize consists of a commemorative medal and the sum of ten thousand crowns. It is awarded now for the first time, and will be awarded every five years to the author of the best work in mathematics published during the five preceding years.